

RUTGERS UNIVERSITY  
DEPARTMENT OF STATISTICS AND BIOSTATISTICS  
HILL CENTER #501, BUSCH CAMPUS, PISCATAWAY

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**Seminar**

**Speaker:** Howell Tong, London School of Economics

**Title:** Time Reversibility Of Multivariate Linear Time Series

**Date:** Tuesday November 18, 2008

**Time:** 12:00 PM

**Place:** 552 Hill Center

**Abstract**

We solve an important open problem by deriving some readily verifiable necessary and sufficient conditions for a multivariate non-Gaussian linear process to be time-reversible, under two sets of regularity conditions on the contemporaneous dependence structure of the innovations. One set of regularity conditions concerns the case of independent-component innovations, in which case a multivariate non-Gaussian linear process is time-reversible if and only if the coefficients consist of essentially symmetric columns with column-specific origins of symmetry or symmetric pairs of columns with pair-specific origins of symmetry. On the other hand, for dependent-component innovations plus other regularity conditions, a multivariate non-Gaussian linear process is time-reversible if and only if the coefficients are essentially symmetric about some origin.